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EXAMINER	
TSAI, H JEY	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Best Available Copy

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Office Action Summary	Application No.	Applicant(s)	
	10/753,241	BALLANTINE ET AL.	
	Examiner	Art Unit	
	H.Jey Tsai	2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5,10-12,16,20,23-24, 49-62,66-69,76 and 77* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5,10-12,16,20,23,49-62,66-69,76 and 77* is/are rejected.

7)☒ Claim(s) *24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5, 10-12, 55-58, 61-62, 67, 69, 77 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Gofuku et al. 4,785,157 in view of Blanchard 4,707,909, both are previously cited.

The reference(s) teach the features:

Gofuku et al. teaches method for increasing an electrical resistance of a resistor, comprising the steps of:

providing a semiconductor structure 1 (IC or silicon) that includes the resistor 1, fig. 1-3, col. 2, lines 34-40, col. 5, lines 30-35, col. 6, line 30,

placing the semiconductor structure 1 in a chamber (vessel), col. 6, lines 54-60,

heating a portion of surface layer 1 (with laser beam 6, 7) at a heating temperature (controlling temperature with laser beam irradiation to change the electric resistance of surface layer 1, see col. 3, lines 6-14, col. 2, lines 50-54 and claim 1), wherein an exterior surface of the portion consist essentially of fraction F (spot on the surface 1 by laser 6, 7) of the exterior surface of the surface layer 1 and wherein a combination of the oxygen concentration and the heating temperature is sufficient to oxidize the portion of surface layer by reacting the portion with oxygen comprising

molecules (col. 6, lines 24-44), wherein heating the portion of the surface layer includes directing a beam (laser beam 6, 7) into the portion of the surface layer 1 such that beam (laser beam 6, 7) cause the heating of the portion of the surface layer and wherein the beam is selected form laser beam,

oxidizing a fraction F (spot on the surface by laser 6, 7) of a surface layer 1 of the resistor with oxygen particles (oxygen, a gas, see col. 6, lines 34-68) either flowing or non-flowing (blowing oxygen on the spot which is flowing or a sealed vessel (chamber) with a window filled with gas which is non-flowing) and includes directing a laser beam onto the surface and heating the surface (controlling the temperature, col. 3, lines 6-14), resulting in the increasing of the electrical resistance of the resistor, with fraction of F <1 less than resistor layer 1 (spot of layer 6 and 7 is less than resistor layer 1), col. 2, lines 50-51, col. 5, lines 1-68, col. 6, lines 1-36, col. 6, lines 34-68,

regarding claim 10, beam is a laser beam radiation 6, 7, col. 6, lines 34-68,

regarding claim 11, wherein fraction of F <1 less than resistor layer 1 (spot of layer 6 and 7 is less than resistor layer 1),

regarding claim 12, F can be equal to 1, when laser beam 6, 7 scans entire surface of resistor layer 1, fig. 1,

regarding claim 55, wherein the thickness of the oxidized portion of the surface being increasing function of an energy flux of the beam (output power, number of pulses and pulse width, etc), col.6, lines 8-32 and claims 3-5,

regarding claim 56, 62, the surface layer is no smaller than beam size 6, 7, fig. 2,

regarding claim 57, the gas is flowing, col. 6, lines 54-60,

regarding claim 58, the gas in non-flowing, col. 6, lines 54-60,

regarding claims 61, 69, laser beam is a pulsed laser beam, col. 4, line 50.

Regarding claim 77, controlling the laser beam power (energy), pulse and duration to increase the resistance value, see col. 3, lines 58-68.

The difference between the references applied above and the instant claim(s) is: Gofuku et al. teaches increasing the resistance in a portion of a resistor by irradiation the surface of resistor with a focused laser beam radiation and oxygen gas and using focused laser beam to cut the material but does not teach that laser beam is well known as a heat source that would heat up the surface of resistor or any material surface to a temperature. However, Blanchard teaches at col. 3, lines 23-36, col. 2, 8-29, laser beam or electron beam radiation is a heat source and using laser beam or electron beam to increases the resistance of a resistor.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have recognized that Gofuku et al.'s focused laser beam is a well known heat source that would heat up the surface of a resistor to a higher temperature to increase the resistance of a resistor as taught by Blanchard.

Claims 16, 20, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basseches et al. 3,148,129 in view of Poisel 4,485,370, Mochizuki 4,533,935, previously applied, and Lerner 5,167,935, previously cited.

The reference(s) teach the features:

Basseches et al. discloses a method for increasing an electrical resistance of a resistor:

forming an anodization electrical circuit which includes: a DC power supply 7, 8, 9, 10, an electrolytic solution 5 comprising oxygen (water, nitric, acetic. Citric, oxalic acid, nitiric acid HNO_3 containing NO_3 gas particles), the resistor 3 partially immersed in

the electrolytic solution 5, and a cathode 6 partially immersed in the electrolytic solution 5, wherein the resistor 3 (with an resistance layer, col. 2, lines 10-11) is electrically coupled to a positive terminal of the DC power supply such that the resistor 3 serves as an anode, and wherein the cathode is electrically coupled to a negative terminal of the DC power supply, fig. 2 and col. 2, lines 10-71, lines 45-60, col. 2, lines 38-45,

activating (initiated by closing the switch 8) the DC power supply such that the DC power supply generates a voltage output, wherein the voltage output causes an electrolytic reaction in the electrolytic solution near the resistor 3, wherein the electrolytic reaction generates oxygen ions from the oxygen in the electrolytic solution, and wherein the oxygen particles include the oxygen ions; and oxidizing the fraction of the surface layer with the oxygen ions to increase the resistance of resistor 3, col. 2, lines 37-54, (meeting claim 16),

testing (monitoring with monitor means 10) the resistor 3 during the oxidizing step to determine the desired resistance has been attained, col. 2, lines 39-55, col. 3, lines 3-60,

providing a semiconductor structure that includes the resistor 3,

providing a chemical solution which includes oxygen particles in an oxygen-comprising gas dissolved in the chemical solution under pressurization,

immersing the semiconductor structure 3 in the chemical solution 5, wherein a fraction F of an exterior surface of a surface layer of the resistor is immersed in the electrolytic solution 5, an electrolytic solution 5 comprising oxygen (water, nitric, acetic. Citric, oxalic acid, nitiric acid HNO_3 containing NO_3 gas particles), fig. 2,

exposing the fraction F of the exterior surface of the surface layer of the resistor 3 to the oxygen particles (electrolytic solution 5 comprising oxygen),

oxidizing a portion of the surface layer of the resistor by chemically reacting the oxygen particles with the portion of the surface layer such that an electrical resistance of the resistor is increased, wherein an exterior surface of said portion consists essentially of the fraction F of an exterior surface of the surface layer 3, and wherein F < 1, col. 2, lines 37-54, (meeting claim 20).

The difference between the reference(s) and the claims are as follows: Basseches et al. teaches increasing an electrical resistance of a resistor on a substrate by using anodization process but does not teaches the resistor can be formed in a semiconductor structure. However, Poisel teaches at col. 3, lines 40-67, forming a resistor in an integrated circuit (a semiconductor structure) by using anodization and nitridation process to increase the resistance of a resistor. Mochizuki et al. teaches at col. 5, lines 1-13, forming a resistor portion of less than one micron. Lerner teaches at abstract, col. 5, lines 1-65, col. 8, lines 34-43, col. 3, lines 35-47, nitric acid reacting to oxygen under pressurized vessel to produce nitric acid and oxidation at temperature greater than room temperature at 70 degree C. And, merely change in size of a resistor surface is not patentable, see MPEP § 2144.04, § IV as follow:

> In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.). In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the

> Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

And the specific dimension of resistor as claimed are taken to be obvious since these are variables of art recognized importance which are subject to routine experimentation and optimization and discovery of an optimum value for a known process is obvious. In re Aller, 105 USPQ 233 (CCPA 1955). And, even if applicants' modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art, In Re Sola 25 USPQ 433.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Basseches et al. process by forming a resistor in the semiconductor structure (integrated circuit) as suggested by Poisel because resistor can be as a part of integrated circuit such RC circuits. And, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Basseches et al. process by forming a resistor in the semiconductor structure with dimension not exceed about one micron as suggested by Mochizuki because resistor is formed inside the semiconductor device which dimension is only few micron scale, therefore, the resistor must be in sub-micron range. And, It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Basseches et al.'s process by using a nitric acid formed from pressurized oxygen as oxidizing solution at 70 degree C as suggested by Lerner

because nitric acid reacts with oxygen under pressurized vessel to produce a final product of nitric acid containg pure NO_3 without NO_x and oxidation occurs at temperature greater than room temperature to promote the faster oxidation.

Claims 49-50, 66 and 76 are rejected under 35 U.S.C 103 as being unpatentable over Basseches et al. in view of Poisel as applied to claims 16, 20, 23 above, and further in view of Mochizuki 4,533,935, Gofuku et al. 4,785,157 and Skill level of an ordinary person in the art, previously cited.

The difference between the references applied above and the instant claim(s) is: Basseches et al. teaches increasing the resistance in a portion of a resistor but does not teach specific dimension of the resistor. However, Mochizuki et al. teaches at col. 5, lines 1-13, forming a resistor portion of less than one micron. And, Gofuku et al. teaches at fig. 1, wherein fraction of F <1 less than resistor layer 1 (spot of layer 6 and 7 is less than resistor layer 1) and F can be equal to 1, when laser beam 6, 7 scans entire surface of resistor layer 1. And, merely change in size of a resistor surface is not patentable, see MPEP § 2144.04, § IV as follow:

> In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.). In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

And the specific dimension of resistor as claimed are taken to be obvious since these are variables of art recognized importance which are subject to routine experimentation and optimization and discovery of an optimum value for a known process is obvious. In re Aller, 105 USPQ 233 (CCPA 1955). And, even if applicants' modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art, In Re Sola 25 USPQ 433.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings with a resistor less than 1 micron and F=1 or F<1 as taught by Mochizuki et al. and Gofuku et al. because the small dimension of resistor can be used in the integrated circuit.

Claim 59 is rejected under 35 U.S.C 103 as being unpatentable over Gofuku et al. as applied to claims 5, 10-12, 55- 58, 61-62, 67, 69 above, and further in view of Mochizuki et al. 4,533,935 and Skill level of an ordinary person in the art, previously applied.

The difference between the references applied above and the instant claim(s) is: Gofuku teaches increasing the resistance in a portion of a resistor but does not teach specific dimension of the resistor. However, Mochizuki teaches at col. 5, lines 1-13, forming a resistor portion of less than 1 micron. And, merely change in size of a resistor surface is not patentable, see MPEP § 2144.04, § IV as follow:

> In re Rose , 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d

at 1053, 189 USPQ at 148.). In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

And the specific dimension of resistor as claimed are taken to be obvious since these are variables of art recognized importance which are subject to routine experimentation and optimization and discovery of an optimum value for a known process is obvious. In re Aller, 105 USPQ 233 (CCPA 1955). And, even if applicants' modification results in great improvement and utility over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art, In Re Sola 25 USPQ 433.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings with a resistor less than 1 micron because the dimension of a resistor determine the resistance of a resistor and such resistance value is taken to be obvious since these are variables of art recognized importance which are subject to routine experimentation and optimization and discovery of an optimum value for a known process is obvious.

Claim 60 is rejected under 35 U.S.C 103 as being unpatentable over Gofuku et al. as applied to claims 5, 10-12, 55- 58, 61-62, 67, 69 above, and further in view of Background of the invention of Gofuku et al. 4,785,157.

The difference between the references applied above and the instant claim(s) is: Gofuku teaches increasing the resistance in a portion of a resistor using a pulsed laser but does not teach using continuous laser beam in the main body of the invention. However, Gofuku et al. teaches at Background of the invention, using a continuous laser beam or a pulsed laser beam to control the resistance value of a resistor.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings with a continuous laser beam because continuous laser also can change the resistance value of a resistor.

Claims 51-54, 68 are rejected under 35 U.S.C 103 as being unpatentable over Gofuku et al. as applied to claims 5, 10-12, 55- 58, 61-62, 67, 69, above, and further in view of Wang et al. 5,547,881 and Blanchard 4,707,909, previously applied.

The difference between the references applied above and the instant claim(s) is: Gofuku et al. teaches increasing the resistance in a portion of a resistor with laser beam radiation and oxygen gas but does not teach using electron beam or ion beam and using nitrogen gas. However, Wang teaches at col.4, lines 1-17, using ion beam radiation and nitrogen to change the resistivity of a resistor. And, Blanchard teaches at col. 3, lines 23-36, using electron beam radiation to change the resistivity of an resistor

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above references' teachings with ion beam or electron beam and/or nitrogen to change the resistivity because ion beam or electron beam would react with the resistor so that the resistivity is altered.

Allowable Subject Matter

Claim 24 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusions

Applicant's arguments filed July 2, 2007 have been fully considered but they are not persuasive. Because Gofuku et al. clearly teach at col. 6, line14-45, YAG laser beam 7 is a heating source having light intensity of 20 mJ (milli joule, a heat energy unit). Gofuku et al. also clearly teaches col. 6, line14-45, oxidizing the portion of surface layer by reacting the portion with oxygen and laser beam radiation having light intensity of 20 mJ. The oxidizing reaction is inherently a thermal process. Gofuku et al. also teaches at col. 7, lines 31-35, the YAG layer beam in the infrared range is employed for the respective laser beam 5, 6 and 7. Light/beam in Infrared range is well known as a heat source in the art, and also is commonly seen in the fast food restaurant for heating French fries and hamberger. Hence, it is clearly Gofuku clearly teaches the limitation of "heating a portion of the surface layer at a heating temperature, ... wherein heating the portion of the surface layer includes directing a beam into the portion of the surface layer such that the beam causes the heating of the portion of the surface layer, and wherein the beam is selected from the group consisting a beam of radiation and a beam of particles". And, Blanchard teaches at col. 3, lines 23-36, Col. 2, 8-29, laser beam or electron beam radiation is a heat source and using laser beam Or electron beam to increases the resistance of a resistor. Gofuku clearly teach at fig. 1, F is equal to the resistor surface 1 that is between the two electrodes 2 as claimed in claim 12. Gofuku clearly teaches at co1.6, lines 8-32 and claims 3-5, the thickness of the oxidized portion

of the surface being increasing function of an energy flux of the beam as claimed in claims 55 and 77 because increasing the output power, number of pulses and width (duration of beam) would increase the thermal energy for oxidizing reaction of oxygen to resistor material. And, there is not see any difference between Gofuku's teaching of using laser beam irradiation to increase the resistivity of resistor surface layer by reacting surface with oxygen and the instant invention. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986), MPEP §2112.02. Gofuku et al. also teaches at col.6, lines 8-32 and claims 3-5, changing laser beam irradiation condition such as output power (energy flux), number of pulses and pulse width, etc. to increase (or decrease) the resistor value as claimed in claim 55. Gufuku teaches at col. 6, lines 53-55, resistor material is placed in a fluid-tight sealed vessel which is filled with oxygen gas. Since, vessel is filled with oxygen gas, hence, there is no flowing no flowing gas as claimed in claim 58.

KSR international v. Teleflex, US Supreme Court, April 30, 2007.Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility. When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product

not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.

When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill.

Applicant cites few Internet sites for Examiner to consider the cool/cold laser beam, however, these materials have not been submitted to the office. Therefore, Examiner cannot consider such citations according the MPEP § 609.

Applicant contends that Basseches et al. in view of Pisel, Mochizuki and Lerner does not teach said portion with the oxygen ions at a temperature above ambient room temperature such that an electrical resistance of the resistor is increased. This is not found persuasive because Basseches clearly teaches at col. 2, lines 9-11, 37-54, the electrical resistance of the resistor 3 is increased by electrolyte anodization. And, the anodization process inherently increases the electrolyte temperature above the room temperature because heat is generated during anodization process when current flow through the electrolyte and resistor element 3 (see fig. 2) between terminal 6 and 28 that heat up the electrolyte which containing oxygen ion. The heat is equal to I^2R, R is resistance of resistor 3 and resistance of electrolyte. And, Lerner teaches at abstract,

col. 5, lines 1-65, col. 8, lines 34-43, col. 3, lines 35-47, nitric acid reacting to oxygen under **pressurized vessel** to produce nitric acid and oxidation at temperature greater than room temperature at 70 degree C.

Applicant contends that Basseches in view of Poisel, Mochizuki, and Lemer does not teach or suggest the features: "providing a predetermined target resistance in terms of a value R_t and a tolerance delta R_t for the electrical resistance of the resistor; ... testing the resistor during the oxidizing step to determine whether the electrical resistance of the resistor is within R_t + delta Rt". This is not found persuasive because Basseches clearly teaches at col. 3, lines 35-45 and table 1, increasing the resistor by anodization to obtain a desired value of resistance. Hence, it would be obvious to set a target value and tolerance before the start of anodization process.

Regarding claim 66, 59, merely change in size is not patentable, see MPEP § 2144.04. And, Wang clearly teaches at col.4, lines 1-17, using ion beam radiation and nitrogen to change the resistivity of a resistor. And, Blanchard clearly teaches at col. 3, lines 23-36, using electron beam radiation to change the resistivity of a resistor.

Applicant contends that the dimension of the resistor does not exceed about one micron, F=1 and F<1. This is not found persuasive because merely change in size of a resistor surface is not patentable, see MPEP § 2144.04, § IV as follow: In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955) (Claims directed to a lumber package "of appreciable size and weight requiring handling by a lift truck" where held unpatentable over prior art lumber packages which could be lifted by hand because

limitations relating to the size of the package were not sufficient to patentably distinguish over the prior art.); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.). In Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art andthe claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

In *Sakraida* v. *AG Pro, Inc.*, 425 U. S. 273(1976), the Court derived from the precedents the conclusion that when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious. *Id.*, at 282. The principles underlying these cases are instructive when the question is whether a patent claiming the combination of elements of prior art is obvious. When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

When a work is available in one field, design incentives and other market forces can prompt variations of it, either in the same field or in another. If a person of ordinary skill in the art can implement a predictable variation, and would see the benefit of doing so, §103 likely bars its patentability. Moreover, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill

It is common sense that familiar items may have obvious uses beyond their primary purposes, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle. . see KSR international v. Teleflex, US Supreme Court, April 30, 2007.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to H. Jey Tsai whose telephone number is (571) 272-1684. The examiner can normally be reached on from 7:00 Am to 4:00 Pm., Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt can be reached on (571) 272-1873.

The fax phone number for this Group is 571-273-8300.

hjt

8/23/2007

H. Jey Tsai
Primary Examiner
Patent Examining Group 2800